



Application for Approval of the
Mackenzie Valley Pipeline

**Volume 4:
Construction and Operations**

Submitted to:
National Energy Board

Submitted by:
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PREFACE

**APPLICATION TO THE
NATIONAL ENERGY BOARD FOR APPROVAL
OF THE MACKENZIE VALLEY PIPELINE
VOLUME 4: CONSTRUCTION AND OPERATIONS****EXECUTIVE SUMMARY****P.1.1 PROPONENTS**

The proposed Mackenzie Valley pipeline will extend about 1,220 km from the Inuvik area facility in the Mackenzie Delta to northwestern Alberta. The pipeline proponents are:

- Imperial Oil Resources Ventures Limited
- Mackenzie Valley Aboriginal Pipeline Group (APG)
- ConocoPhillips Canada (North) Limited (ConocoPhillips)
- Shell Canada Limited (Shell)
- ExxonMobil Canada Properties (ExxonMobil)

Construction of the pipeline and related facilities will require the proponents to marshal and transport construction equipment and materials, plan and coordinate transportation logistics for equipment, materials and personnel, plan personnel needs and schedules, and construct and operate the pipeline and related facilities.

P.1.2 PLANNING AND RESOURCES

The Mackenzie Valley pipeline and related facilities will be built in an arctic and subarctic environment. The construction methods and materials planned will be similar to those that have been successfully used in the past in northern Alberta and northern British Columbia. Conventional winter pipeline and industrial-facility construction methods and equipment will be used. Winter construction techniques include winterizing construction equipment and fuel tanks, using appropriate welding and trenching techniques, and providing workforce protection and housing.

Arctic conditions are harsh and will impose severe constraints and requirements on construction planning, logistics and implementation. In developing the construction and resource plans for the pipeline, a number of factors were considered, including permafrost conditions, environmental concerns, safety and emergency response plans, regulatory compliance, infrastructure requirements, reduced daylight during the winter, transportation logistics and seasonal availability, and the development of some infrastructure to support construction.

P.1.3 TRANSPORTATION METHODS

Logistics and transportation activities for the Mackenzie Gas Project, including the Mackenzie Valley pipeline, anchor fields and Mackenzie gathering system, will be coordinated and integrated as much as practical to take maximum advantage of existing infrastructure in the Northwest Territories. Construction activities are expected to begin in 2006 and decline in 2009–2010 as crews and equipment leave the area when construction and clean-up are complete. The preliminary estimate of construction transport requirements for the Mackenzie Valley pipeline component of the project is about 640,000 t.

Construction materials and equipment will be transported primarily by barge, rail and road, depending on the season and the load. Air transport will also be used, especially for personnel transport, into existing or newly constructed airfields. In some cases, the existing infrastructures and capacities will need to be upgraded to accommodate the expected loads and schedules.

P.1.4 INFRASTRUCTURE

The infrastructure required for constructing and operating the gas pipeline includes sites for barge landings, construction material stockpiles, fuel storage, camps, access roads, airstrips and helipads, and borrow material. Some of these sites will be shared with the anchor fields and gathering system.

The criteria used to select the infrastructure sites included choosing sites that offered ease of access, took advantage of already existing disturbances where practical, and were not culturally or environmentally sensitive. For all facility sites, estimates of land requirements (footprint size) and expected staffing requirements were made. In some cases, the sites, especially the borrow sites, were adjusted to respond to input and concerns from nearby communities that would be affected by the use of the site for construction or ongoing operations. The existing transportation infrastructure within the Northwest Territories is limited and includes paved and unpaved highways, winter roads, and air, rail, and water transport. The reach and capacity of the current transportation infrastructure was carefully considered in estimating the transportation needs and capacities that will have to be attained for the project.

P.1.5 OPERATIONS AND MAINTENANCE

The gas pipeline and related facilities will be operated according to all applicable regulatory requirements, permit conditions and licences. Safety and emergency programs will be developed and implemented. To the greatest extent possible, the pipeline and facilities will be remotely monitored and operated from a main control centre. An inspection and repair program will be developed and instituted for the pipeline and related facilities. Emergency-shutdown systems will be installed and be capable of being activated remotely or locally if an unsafe condition is detected. Emergency preparedness and response plans will be developed to address and resolve issues associated with public and personnel safety as well as environmental protection.

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